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**Building The  
Wireless Future™**

**CTIA**

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April 18, 1996

Mr. William F. Caton  
Secretary  
Federal Communications Commission  
1919 M Street, NW, Room 222  
Washington, DC 20554

**Re:** *Ex Parte* Presentation  
CC Docket No. 95-116

**RECEIVED**

**APR 18 1996**

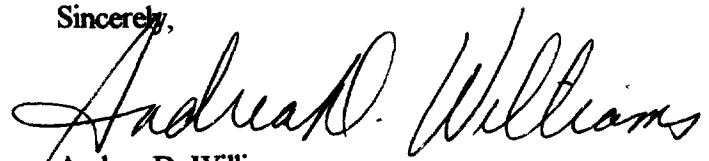
**FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY**

Dear Mr. Caton:

On Thursday, April 18, 1996, the Cellular Telecommunications Industry Association ("CTIA") held a tutorial on CMRS Number Portability for FCC staff members. At the tutorial, the attached documents were distributed. I am also attaching a list of attendees at the tutorial.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter including the attachments are being filed with your office. If there are any questions concerning this filing, please contact me at (202) 736-3215.

Sincerely,

  
Andrea D. Williams  
Assistant General Counsel

Attachments (4)

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List ABCDE

# **Cellular Telecommunications Industry Association**

## **Tutorial - Number Portability**

### **Attendees**

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**Carol Matthey, Deputy Chief, Network Services Division**

**Jason Karp, Attorney**

**Mindy Littell, Attorney**

**Susan McMaster, Economist**

**Jeannie Su, Attorney**

#### **Wireless Telecommunications Bureau:**

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**David Wye, Technical Advisor to Bureau Chief**

**Michael Wack, Deputy Chief, Policy Division**

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#### **CTIA:**

**Chuck Bailey, Director, Standards, Southwestern Bell**

**Brian Fontes, Senior Vice President, Policy & Administration**

**Mike Altschul, Vice President and General Counsel**

**Randall Coleman, Vice President, Regulatory Policy and Law**

**Art Prest, Vice President, Science and Technology**

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**Bob Montgomery, Manager for Network Operations, Science and Technology**

**Andrea Williams, Assistant General Counsel**

**Ed Krachmer, Manager, Congressional Affairs**

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APR 18 1996

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matter of )  
 )  
Telephone Number Portability ) CC Docket No. 95-116  
 )

**FURTHER COMMENTS IN REPLY OF THE  
CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Cellular Telecommunications Industry Association ("CTIA")<sup>1</sup> hereby submits its further comments in reply to the Public Notice in the above-captioned proceeding.<sup>2</sup> In the Notice, the FCC seeks comment on how the passage of the Telecommunications Act of 1996 may have affected the issues raised in the proposed rule making.

As the Notice indicates, Section 251(b)(2) of the Telecommunications Act of 1996 amends Title II of the Communications Act by inserting Section 22(b)(2) which requires local exchange carriers "... to provide, to the extent technically feasible, number portability in

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<sup>1</sup> CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the association covers all Commercial Mobile Radio Service ("CMRS") providers, including cellular, personal communications services, enhanced specialized mobile radio, and mobile satellite services.

<sup>2</sup> Public Notice, Further Comments Telephone Number Portability, CC Docket No. 95-116, DA 96-358 (released March 14, 1996) ("Notice").

accordance with requirements prescribed by the Commission."<sup>3</sup> Although this section of the Telecommunications Act of 1996 imposes no similar obligation on CMRS providers,<sup>4</sup> wireless carriers will be directly affected by the Commission's action in this proceeding even if number portability is limited to wireline services.

As a threshold matter, the FCC should take a leadership position in establishing a nationwide uniform number portability platform and architecture.<sup>5</sup> Wireless carriers are linked together by a nationwide common channel signaling network using the IS-41 protocol. As explained below, the IS-41 protocol will have to be revised substantially to accommodate both landline and wireless portability and still support wireless roaming and fraud prevention functions. Given the complexity of such revisions, as well as the delay multiple revisions entail, the FCC should endorse a single local number portability architecture.<sup>6</sup>

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<sup>3</sup> The Telecommunications Act of 1996, Pub. L. No. 104-104, § 251(b)(2).

<sup>4</sup> The term "local exchange carrier" does not include persons engaged in the provision of a commercial mobile service under Section 332(c) of the Communications Act. See Telecommunications Act of 1996, Pub. L. No. 104-104, § 3(a)(44).

<sup>5</sup> The Telecommunications Act of 1996 reinforces the Commission's authority to adopt a nationwide number portability solution. See Comments of Cox Enterprises at 3-4.

<sup>6</sup> Similarly, the FCC should not adopt an interim solution, but instead should permit the wireless industry to

CTIA also believes that all CMRS services should be subject to the same portability requirements. Indeed, the principle of regulatory parity requires such treatment when similar services are substitutes for one another. As the Sprint Spectrum PCS service in the Washington-Baltimore MTA proves, the provision of "short messaging service" by broadband PCS providers, ESMRs, and cellular carriers blurs the previously clear distinction between broadband and narrowband PCS services and traditional cellular and paging services.

As CTIA previously has noted, number portability is of competitive importance in the CMRS market. However, because the CMRS market already is competitive and already provides one type of portability in the form of terminal mobility, there is not the same urgency for implementing portability as is present in the local exchange market. Indeed, Congress implicitly recognized this distinction when it excluded CMRS number portability from the statutory requirements of Section 251(b)(2) of the Telecommunications Act of 1996 which imposes the obligation to provide number portability exclusively on local exchange carriers.<sup>7</sup>

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**focus its efforts on the development and deployment of a permanent number portability system. Any interim database solution is likely to impede progress toward a permanent solution and is likely to cause compatibility problems for roaming access.**

<sup>7</sup> **The Telecommunications Act of 1996 supports deferring the imposition of number portability requirements on**

Because CMRS services are interconnected with the public switched network, the implementation of number portability by local exchange carriers will affect all wireless service providers. They will also be affected by the implementation of number portability in wireless networks even if only a few wireless service providers are participants. Therefore, CMRS providers require a single uniform national solution for number portability. Once a uniform approach to number portability is established, wireless service providers will be able to implement a technical solution based on the solution adopted by local exchange carriers. However, CMRS implementation of number portability must await development of the needed revisions to IS-41, which, in turn, can only be developed after the Commission has resolved landline portability requirements.<sup>8</sup>

Wireless networks employ "IS-41" technology to enable subscribers to use their wireless telephones throughout the nation and to check fraud. IS-41 facilitates the exchange of data and other pertinent information between wireless

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wireless providers. See Further Comments of Bell Atlantic NYNEX Mobile, Inc. at 2; Further Comments of SBC Communications Inc. at 3; Comments of BellSouth and BellSouth Telecommunications Inc. at 6; ex parte submission of GTE dated March 27, 1996.

<sup>8</sup> See ex parte submission of Northern Telecom dated March 14, 1996 (national forum is needed to address technical issues preventing wireless networks from participating in local number portability).

switches, thus enabling different mobile switching centers to communicate with one another.<sup>9</sup> Modifications to current wireless signaling, call routing, and translation functions will be required to support call registration, validation, and call delivery of wireless systems in a number portability environment. Such modifications must not interfere with a wireless subscriber's ability to roam.<sup>10</sup>

In addition to the modifications required to the signaling, routing, and translation functions of the wireless networks, other important technical and policy considerations must be resolved. For instance, wireless network architecture will need to be modified to accommodate new number port addresses. New test procedures will need to be developed for number portability due to required modification of existing roaming functionalities. Redundant and back-up systems must be updated. Rating and billing modifications will be required which will impact the wireless carriers' post-processing methods. Anti-fraud

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<sup>9</sup> For example, when a telephone call request is transmitted over a wireless network, the home switch serving the subscriber queries its home location register ("HLR") database to determine whether the subscriber is in good standing, i.e., the process validation. Similarly in a roaming context, the visiting location register ("VLR") database transmits IS-41 messages back to the home carrier's HLR to validate the wireless telephone number associated with that subscriber and permit delivery of the call.

<sup>10</sup> In addition, the capability to roam within similar technologies internationally should not be diminished.

mechanisms designed to combat the increasing activity in wireless fraud must be supported and not compromised. Procedures must be devised to ensure that 911 calls are routed to the appropriate public safety answering point ("PSAP") operator and new procedures must be created for routing 611 repair and customer service calls. Law enforcement needs and the electronic surveillance requirements of the Communications Assistance of Law Enforcement Act of 1994 must be supported. Furthermore, the introduction of number portability could lengthen the post dial delay on some calls. This must be carefully analyzed to assure that such delay is kept within tolerable limits.

While many of these factors are common to both wireline and wireless systems, some, such as roaming and fraud, uniquely apply to wireless networks. Therefore, the Commission should defer from imposing portability requirements on CMRS providers until it completes its statutory obligation to address and resolve number portability requirements for local exchange carrier networks. However, once number portability requirements are established for local exchange carriers, the FCC should then address number portability requirements for CMRS providers. The creation of a uniform national plan that provides number portability solutions for both wireline and wireless systems is essential to the development of competition between



telecommunications service providers, as well as providing expanded customer choices, services, and products.

Respectfully submitted,

A handwritten signature in cursive script, reading "Michael Altschul". The signature is written in dark ink and is positioned above the printed name.

Michael Altschul  
Vice President and  
General Counsel


Randall S. Coleman  
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April 5, 1996

**CERTIFICATE OF SERVICE**

I, Andrea D. Williams, do hereby certify on this 5th day of April 1996, copies of the foregoing Reply Comments of the Cellular Telecommunications Industry Association were sent via hand-delivery or first class mail to the persons on the attached service list.

  
Andrea D. Williams

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**\*hand delivery**



# **CMRS Number Portability**

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## **Tutorial**

**presented by**

**Cellular Telecommunications  
Industry Association  
(CTIA)**

**April 18, 1996**

**Washington, D.C.**

# **CMRS Number Portability**

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## **Discussion Topics (Agenda)**

- **Scope**
- **Impact of Wireline Number Portability on CMRS**
- **Technical Issues Related to CMRS Number Portability**
- **Conclusions**
- **Discussion**

# **CMRS Number Portability**

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## **Scope**

**This discussion will be limited to the technical impacts of number portability on CMRS providers**

# **CMRS Number Portability**

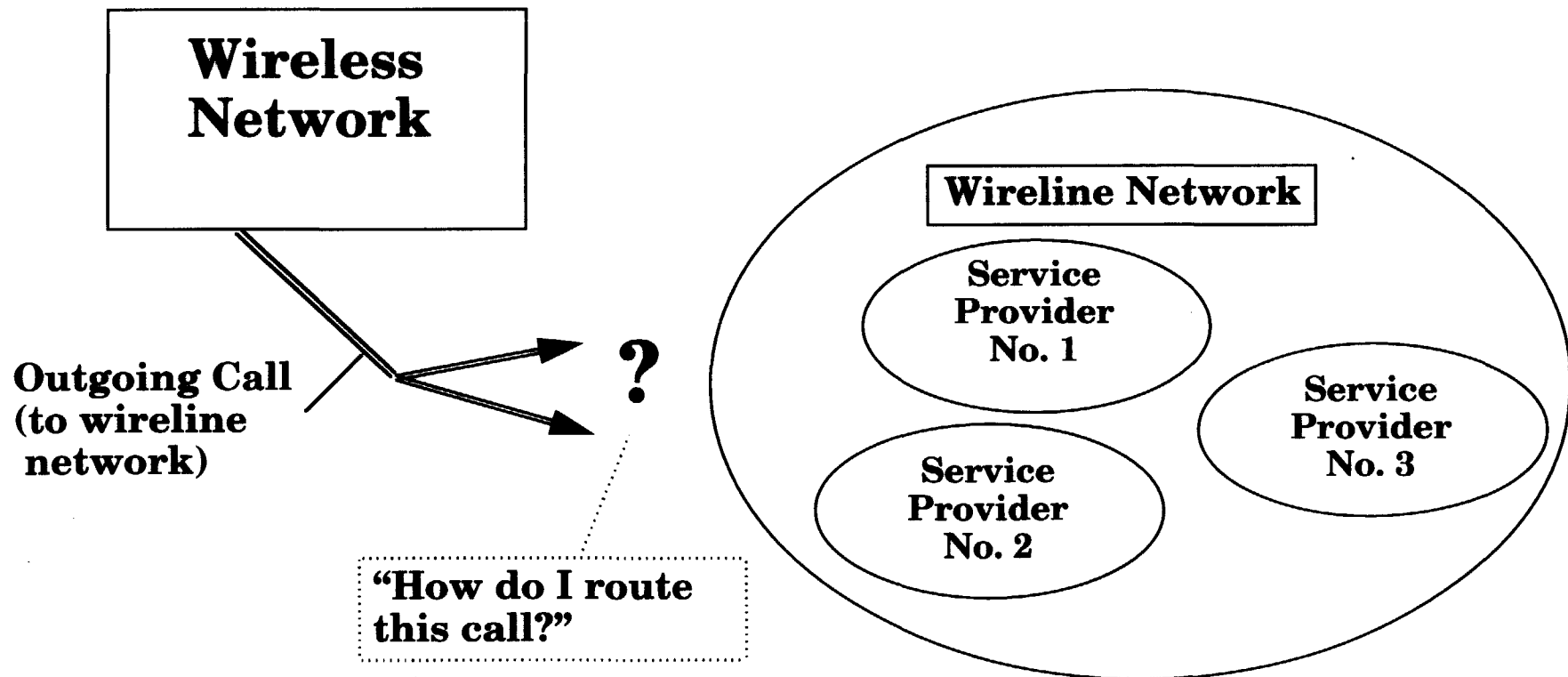
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## **Impact on CMRS**

**CMRS service providers will be impacted by the implementation of number portability, even if number portability is limited to the LEC networks.**

# CMRS Number Portability

## Delivery of CMRS-to-Wireline Calls



# **CMRS Number Portability**

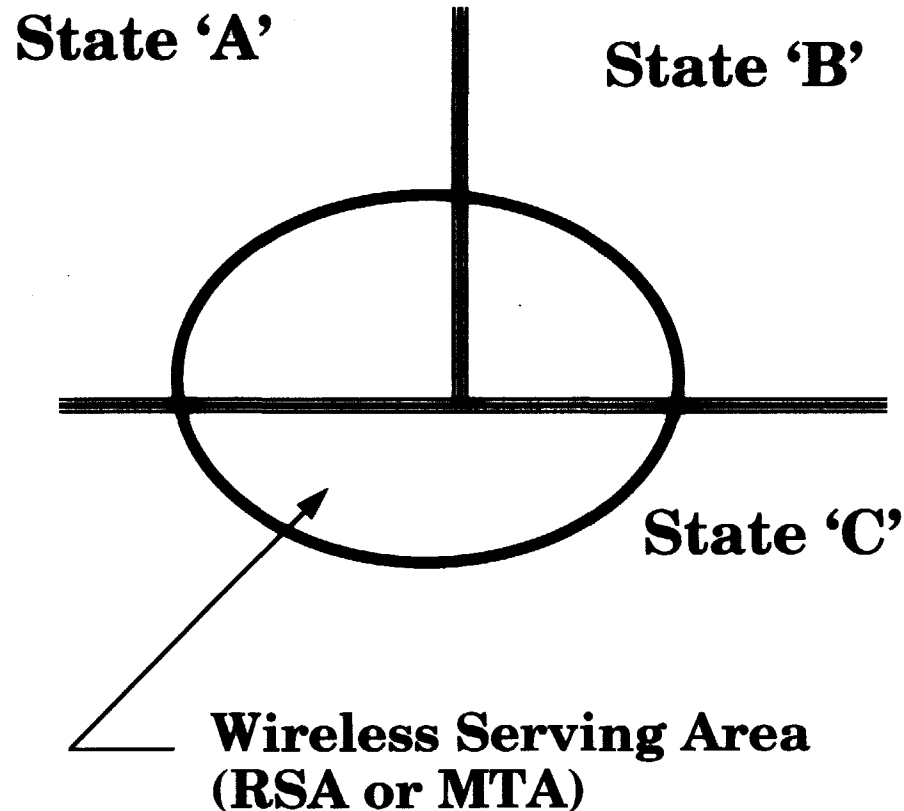
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## **Impact on CMRS**

**Due to the differences between wireless and wireline calling areas, combined with the need to maintain call completion functionality, a single NANP solution for LEC number portability is needed**

# CMRS Number Portability

## Geography of Wireless to Wireline Calls



**Calls originating in the wireless serving area may be destined for any of the subtending wireline areas**

**To minimize technical complexities, the subtending wireline networks should utilize the same number portability solution**

# **CMRS Number Portability**

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## **Technical Impacts**

**All CMRS providers are impacted by the implementation of number portability in CMRS networks even if only a few CMRS providers are participants.**



# CMRS Number Portability

## Roamer Registration

(Currently - No CMRS Portability)

